

Claims

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1. A micromachining surface treatment material containing less than 0.1% hydrofluoric acid, and more than 40% by weight but less than or equal to 47% by weight of ammonium fluoride.
 2. The micromachining surface treatment material of claim 1, manufactured by dissolving ammonia gas in a hydrofluoric acid solution.
 3. The micromachining surface treatment material of claim 1 or claim 2, containing a surfactant at 0.0001 - 1% by weight.
 4. The micromachining surface treatment material of claim 3, said surfactant is one of, or two or more of, a fatty amine ($C_nH_{2n+1}NH_2$; $m=7-14$), a fatty carboxylic acid ($C_nH_{2n+1}COOH$; $n=5-11$), or a fatty alcohol ($C_nH_{2n+1}OK$; $n=6-12$).
 5. A surface treatment method that removes a natural oxidation layer inside contact holes using the micromachining surface treatment material of any one of claims 1 to 3.
 6. The surface treatment method of claim 5, wherein the diameter of the contact holes is less than or equal surface treatment method of claim 5 or claim 6, wherein the contact holes open to an oxidation film.
 7. The surface treatment method of any one of claim 5 to claim 6, wherein the oxidation film is a CVD type oxidation film.
 8. The surface treatment method of any one of claim 5 to claim 6, wherein the oxidation film is a TEOS type oxidation film.